



Statistical Sciences  
UNIVERSITY OF TORONTO

# University of Toronto Actuarial Science 2019 CAS University Award

Samuel Broverman  
Professor of Actuarial Science  
Department of Statistical Sciences  
University of Toronto

# Actuarial Science Faculty

- Five full-time faculty members (including one FSA and two ASAs)
- Five sessional course instructors from local industry in Toronto for casualty courses, all with FCAS designation
- Two sessional course instructors from local industry for courses in communications and pension mathematics, both with FSA designation

# Actuarial Program Students

- Approximately 250 students in undergrad actuarial programs
- Approximately 70 program graduates each year
- 90+% of program students have passed at least one professional actuarial exam
- Usually 2 or 3 PhD students studying actuarial science

# U of T Actuarial Science Program

- Covers all topics in CAS exams 1, 2, 3F, MAS-I and MAS-II and a number of the topics from Exam 5

# Casualty Courses

- Third year (junior) course in reserving methods for P&C (currently taken by approximately 40 students)
- Third year course in ratemaking methods for P&C
- Fourth year (senior) course in advance P&C topics, including catastrophic pricing, reinsurance pricing, and GLM applications to P&C

# Casualty Insurance Research

- A New and Flexible Regression Model for Ratemaking and Reserving, Prof. A Badescu presentation at this conference
- Research on logit-weighted reduced mixture models applied to auto insurance and rate making, on paper submitted to ASTIN Bulletin, a second paper submitted to Insurance: Mathematics and Economics journal, 2019, Prof. Andrei Badescu, Prof. Sheldon Lin
- Research on marked Cox models with hidden Markov chains applied to IBNR claims, 2019, Prof. Andrei Badescu, Prof. Sheldon Lin

# Connection to P&C Industry

- P&C courses designed and taught by actuaries working in industry
- Industrial advisory board with several members from P&C industry
- Mentorship program includes mentors working in P&C industry
- Collaborative research with industry partners
- Professional Experience Year student internships with partners in the P&C industry

# Connection to CAS

- P&C course instructors are all FCAS
- U of T actuarial program is part of the Canadian Institute of Actuaries University Accreditation Program (UAP) – CAS recognizes UAP credits earned via U of T courses